NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

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Working Group Four Synopsis

- ***Spokesman**: P.E. Burrows, Princeton University*

- The majority of electronics manufacturing has migrated to the far east due to the significantly lower costs.
- The key to bringing the industry to the U.S.,is to significantly reduce manufacturing costs.
- Organic electronic materials offer a unique opportunity to accomplish this by utilizing new fabrication techniques, particularly continuous processing.

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Suggested Areas of Research for Maximum Impact

- *Continuous Manufacturing Processes.*
  - Printable Electronics
  - Continuous Vacuum Processes (i.e. roll-to-roll)
- *Improved Materials Compatible With the Above.*
  - Improved Performance (mobility, efficiency,…)
  - Improved Reliability
- *New Architectures.*
  - Beyond Two Dimensions?
  - New Geometries Unique to Organics

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Why ATP Involvement?

- The novel material properties of organics potentially represent a new paradigm in manufacturing which could leapfrog conventional, batch processing methods.
- Such disruptive technology involves high risk capital investment which may require a longer development period than is acceptable to individual companies, but if realised could radically alter the face of electronics manufacturing for a broad range of applications.
- Organic electronics is being actively pursued by industry in Europe and Asia
- ATP partnership could significantly improve the chances of future innovations in this area remaining in the U.S., by lowering the risk level for particular companies to invest in appropriate technology development.